

Abstract of the Disclosure

A method and system for shrinking dilatations of a body, removing excess, weak or diseased tissue, and strengthening remaining tissues of the lumen walls. A catheter is disposed near the dilatation and fixed in position by inflatable occlusion balloons. Body fluids present in the occluded dilatation are evacuated and treatment fluid is exuded under pressure into the dilatation. Pressure is maintained by the treatment fluid while energy is applied by the catheter to heat the treatment fluid, causing the lumen walls to absorb the treatment fluid. Additional energy is then applied so as to preferentially heat the lumen wall tissues which have absorbed the treatment fluid, while at the same time treatment fluid is circulated to cool the inner surface of the lumen walls. The dilatation is occluded, a saline solution is introduced and absorbed into the lumen-wall tissue in the occluded region of the dilatation and then heated by application of radio frequency ("RF") or other energy in order to soften only the lumen-wall tissue of the dilatation, the dilatation is shrunk by application of a chilled saline solution and a vacuum, and additional RF or other energy is emitted to ablate, further shrink, and harden only the lumen-wall tissue of the dilatation, without destroying the inner surface of the lumen or other tissues of the body beyond the lumen walls, thereby promoting growth of epithelial cells.